

Report

- This should be at least 10 pages long with 12 pt font and double spaced.
- Due by Monday 4:00 pm February 16th 2009.
- Suggested project 1.
 - Choose a hyperbolic 2-orbifold X and construct a discrete subgroup Γ in $\mathrm{PSL}(2, \mathbb{R})$ so that H^2/Γ is diffeomorphic to X . Discuss topics regarding flexibility and rigidity. (One can use mathematica and matlab.)
 - * (a) Discuss how to find the fundamental polygons in H^2 for Γ , deformed or not, or
 - * (b) Choose X somewhat large. Find some deformations of X and describe the corresponding deformed group Γ_t for at least one-parameter t numerically or exactly if possible, or
 - * (c) Choose X small so that there is no deformation and find exact arithmetic numbers for the matrices.
- Suggested project 2. Find some relationships to topics such as algebraic geometry, mirror symmetry, computer graphics, or statistics. One has to obtain an approval from me as below.
- Devise your own project: Please outline your project and submit it to me by Friday, January 9th, 4:00 pm for approval. I will return it on January 13th, 3:00 pm. with some suggestions.